

## **DESCRIPTION OF THE BASIC NETWORK COMPONENTS**

### **Network Access or Loop Facilities:**

Network access or loop facilities provide the connections between the customer's premises and the central office ("CO") and/or wire center building. Network access lines or loops consist of underground, buried or aerial cables (*e.g.*, copper paired or fiber optic cable facilities) and electronics at remote terminals ("RT") used to provide the transmission facilities between the CO and the customer's premises. Network access lines or loops are part of Verizon's outside plant network. From the CO, these facilities traverse manholes (via conduit), poles and RTs before they ultimately terminate at a customer premise.

### **COs or Wire Centers:**

COs or wire centers are buildings serving as hub locations where the network access or loop facilities terminate on Verizon facilities for further connections to the local public telephone network system ("PTNS"). Once at the CO, the network access lines are joined with switching or dedicated facilities that provide transmission paths to the called party or points of dedicated circuit terminations. Switching equipment can include circuit switch, packet switch, frame relay switch, and ATM cell relay switch equipment. Special services circuit equipment and interoffice facilities are used for dedicated connections to other customer premises or extensions to switching equipment located in other COs.

The CO functions as the “brains” of the network. COs contain switches (*i.e.*, local and tandem circuit switches, packet, frame relay and ATM cell relay switches), digital subscriber line access multiplexers (“DSLAM”), cross-connection frames and bays, special services circuit equipment, signaling transfer points (“STP”) – which serve numerous subtending switches, service control points (“SCP”) and interoffice transmission equipment (*e.g.*, digital cross-connect systems, multiplexers, DS1, DS3 and OC(N) electronic and optical transmission terminal equipment and digital radio microwave equipment) that is used to provide transmission facilities between the CO buildings.

COs also contain numerous equipment line-ups (*e.g.*, equipment bays or racks), as well as sensitive power and infrastructure equipment, such as main distributing frames, etc. that are located throughout the building. For example, COs house the telecommunications power plants necessary to condition commercial alternating current (AC) power purchased from electrical utilities into direct current (DC) or other forms of power required to power telecommunications equipment and emergency backup batteries and generation for periods when commercial power may experience interruption. In addition, many of Verizon’s COs contain emergency 911 (“E911”) switches and adjunct equipment.

**Interoffice Facilities (“IOF”):**

Interoffice facilities provide the high-speed bandwidth transmission paths between central offices. These consist of underground, buried or aerial copper and fiber optic cables, some remote electronics for regeneration of signals, and digital radio microwave terminals, antenna and repeater stations.

**Remote Terminals:**

Remote terminals are like central offices in that they are “hubs” that house multiplexing, transmission, power and, in some cases, cross-connect and environmental conditioning equipment. Verizon uses three basic forms of terminal enclosures to house circuits and equipment remotely located from the central office. These are controlled environmental huts (“huts”), controlled environmental vaults (“CEVs”), and cabinets. In addition to these three types of remote enclosures, loop equipment can also be located in equipment rooms in the basements or other areas of customer buildings.

CEVs and huts are small one-room structures. CEVs are below-ground structures that are kept at controlled temperature and humidity conditions. They are designed to give a technician access to all equipment and wiring without having to move about the structure. Huts are similar above-ground enclosures. Cabinets are even smaller enclosures than either CEVs or huts. They are an above-ground pad, wall or pole-mounted structure with no internal environmental conditioning equipment. In the case of cabinets, a technician gains access to the equipment and wiring from outside the structure by opening a hinged door.

None of these RT structures is designed to enable Verizon MA to secure its equipment from access by competitors. For example, CEVs and huts are sized so that a technician can enter the enclosure and gain access to the equipment and wiring in the limited space available. However, there is no space for multiple technicians to access and perform activities at the same location.